IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent application of:

Applicant(s):	Andreas Manz et al.
Serial No:	10/559,958
Filing Date:	June 30, 2006
Title:	FREE FLOW ELECTROPHORESIS MICROCHIP, SYSTEM AND METHOD
Examiner:	John C. Ball
Art Unit:	1795

Docket No. FRYHP0184US

PRE-APPEAL BRIEF REQUEST FOR REVIEW

MS AF
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Dear Sir:

Applicant requests review of the final rejection in the above-identified application. No amendments are being filed with this request.

This request is being filed with a notice of appeal.

The review is requested for the reasons stated on the attached sheets.

Respectfully submitted,

RENNER, OTTO, BOISSELLE & SKLAR, LLP

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By_____
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ADDENDUM TO PRE-APPEAL BRIEF REQUEST FOR REVIEW

The review is requested for the following reasons.

The Examiner contends the claimed subject-matter is unpatentable over Raymond et al ("Continuous Sample Pretreatment Using a Free-Flow Electrophoresis Device Integrated onto a Silicon Chip", Analytical Chemistry, Vol 66, No 18, September 15, 1994) in view of Oakey et al (US-2003/0159999).

Clear Error No. 1

Claims 1, 39 and 68 each require *inter alia* a free flow electrophoresis microchip which comprises a planar separation chamber having a planar region, and a magnetic field unit for providing a magnetic field substantially orthogonal to the planar region of the separation member and to the flow direction of the separation medium.

The Examiner has cited Raymond et al as disclosing a free flow electrophoresis device.

The Examiner has acknowledged that Raymond et al does not teach a magnetic field unit as required by claims 1, 39 and 68. In this regard, the Examiner has cited Oakey et al, and specifically identified the disclosure of a field generator (92) which induces an electric or magnetic field in a microfluidic device (44) [paragraph [0058], lines 5 to 7 and Figure 3], and is alleging that it would have been obvious to the skilled person to modify the microfluidic device of Raymond et al to incorporate a field generator (92) of the kind of Oakey et al. This is absolutely not the case.

Significantly, Oakey et al teaches that the field generator (92) is a component of an imaging system (90), which is separate to the microfluidic devices (44) that are to be imaged by the imaging system (90).

The teaching of Oakey et al is to identify particles by reference to electric or magnetic properties of the particles or properties associated with a pre-treatment of the particles using the imaging system (90), which induces an electric or magnetic field in the microfluidic device (44) to allow the particles to be imaged [paragraph [0058], lines 7 to 12]. Given this teaching, the skilled person would have had no conceivable reason to contemplate the implementation of the field generator (92) of Oakey et al within a microfluidic device, such as of the kind of Raymond et al.

Clear Error No. 2

This notwithstanding, it is submitted that even if the skilled person were to have somehow contemplated applying the teaching of Oakey et al to that of Raymond et al, the microfluidic device as defined in claims 1, 39 and 68 would not result.

In Oakey et al, the purpose of the field generator (92) is to induce lateral movement of the particles of interest across the field of view of the microscope of the imaging system (90) [paragraph [0058], lines 7 to 12 and Figure 3], so as to enable this movement to be captured and thereby enable the particles of interest to be identified.

If the field generator (92) of Oakey et al were to be incorporated into the microfluidic device of Raymond et al, which has a planar separation bed, the field generator (92) would be required to induce a field transversely across the separation bed, that is, parallel to the separation bed and not substantially orthogonal to the planar separation bed as now required by claims 1, 39 and 68, in order to induce lateral movement of the particles of interest across the field of view of the microscope of the imaging system (90).

Entirely differently from Oakey et al, the magnetic field employed in the microfluidic device of present claims 1, 39 and 68 is required to be orthogonal to the planar region of the separation chamber, in order to induce either a magnetohydrodynamic flow when provided in conjunction with an electric field or an electric field transverse to the separation chamber when provided in conjunction with a supplied flow through the separation chamber.

Accordingly, it is submitted that the subject-matter of claims 1, 39 and 68 is patentably distinguished over the disclosures of Raymond et al and Oakey et al.